

AMENDMENT TO THE CLAIMS:

1. (Canceled)
2. (Previously Presented) The apparatus of claim 23, wherein said fusion includes a binder material.
3. (Previously Presented) The apparatus of claim 23 wherein said second bore is smaller in diameter than said first bore.
4. (Original) The apparatus of claim 3 wherein said second bore is less than half a diameter of said first bore.
5. (Currently Amended) The apparatus of claim 23 wherein said second bore extends substantially perpendicular from said first surface ~~defining said opposite side~~.
6. (Previously Presented) The apparatus of claim 23 wherein said second bore includes two bores.
7. (Previously Presented) The apparatus of claim 23 wherein said fusion includes a laser weld.
8. (Previously Presented) The apparatus of claim 23 wherein said metal probe case is one of a cylindrical and a rectangular metal probe case.
9. (Previously Presented) The apparatus of claim 23 wherein a centerline of said second bore intersects a centerline defining the axis of a cylindrical metal probe case.
10. (Previously Presented) The apparatus of claim 23 wherein said metal probe case is configured with a bore to enclose the extension cable extending from the offset proximity probe.

11. (Previously Presented) The apparatus of claim 23 wherein said fusion is done after electronic components are installed in the proximity probe secured in said metal interface cup.

12. (Withdrawn) A method for attaching a proximity probe offset to an axis defining a metal probe case and an extension cable extending therefrom comprising:

securing the proximity probe with a metal interface cup;

configuring a metal probe case with a first bore extending from one side toward an axis defining a length of said metal probe case;

configuring said bore to accept said metal interface cup while leaving a tip of the proximity probe exposed;

mating a bottom surface defining said metal interface cup opposite said tip with a first surface defining a closed end of said first bore;

configuring said metal probe case with a second bore extending from a substantially opposite side of said one side, said second bore extending perpendicular from a surface defining said opposite side, wherein only a portion of said second bore intersects said first surface of said first bore creating a through hole into said first bore;

disposing said metal interface cup in said first bore covering said through hole;  
and

fusing an interface between two exposed mating surfaces defining said cup and said second bore, thus securing said cup with said case.

13. (Withdrawn) The method of claim 12, wherein said fusing includes a fusion process with or without addition of a binder material.

14. (Withdrawn) The method of claim 12 further comprising:  
  
configuring said second bore smaller in diameter than said first bore.
15. (Withdrawn) The method of claim 14 wherein said second bore is less than half a diameter of said first bore.
16. (Withdrawn) The method of claim 12 wherein said second bore extends substantially perpendicular from said surface defining said opposite side.
17. (Withdrawn) The method of claim 12 wherein configuring said second bore includes configuring two bores.
18. (Withdrawn) The method of claim 12 wherein said fusing includes laser welding.
19. (Withdrawn) The method of claim 12 further comprising:  
  
configuring said metal probe case as one of a cylindrical and a rectangular metal probe case.
20. (Withdrawn) The method of claim 12 wherein a centerline of said second bore intersects a centerline defining the axis of a cylindrical metal probe case.
21. (Withdrawn) The method of claim 12 further comprising:  
  
configuring said metal probe case with a bore to enclose the extension cable extending from the offset proximity probe.
22. (Withdrawn) The method of claim 12 wherein said fusing is done after electronic components are installed in the proximity probe secured in said metal interface cup.

23. (Previously Presented) An apparatus for attaching a proximity probe, the apparatus comprising:

a metal interface cup for securing the proximity probe therewith, said metal interface cup having a bottom surface;

a metal probe case having a first bore and a second bore, said first bore receptive to said metal interface cup and having a first surface defining a closed end of said first bore, said second bore oriented such that only a portion of said second bore intersects said first surface to create a through hole into said first bore; and

a fusion securing said metal interface cup with said metal probe case at an interface between said bottom surface and said second bore.

24. (Previously Presented) The apparatus of claim 23 wherein said metal interface cup comprises a cylinder, said cylinder comprising a first cup bore coaxial with said cylinder, said first cup bore comprising a closed bottom wall.

25. (Previously Presented) The apparatus of claim 24 wherein said metal interface cup comprises a second cup bore extending through opposing sides of said cylinder, said second cup bore substantially transverse to said first cup bore.

26. (Previously Presented) The apparatus of claim 23, further comprising:

the proximity probe secured with the metal interface cup.